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25X1A

[redacted]-2301-63
Copy 1 of 7

4 March 1963

MEMORANDUM FOR THE RECORD

SUBJECT : OXCART Status Summary

1. The following is a recapitulation of the number of flights, hours, and status of A-12 aircrafts at [redacted] through 3 March 1963: 25X1A

a. Aircraft #121 made 54 flights for a total of 59.38 hours. Eighteen flights were made with one J-75 engine and one J-58 engine for a total of 14.52 hours.

b. Aircraft #122 (equipped with J-58 engines) made 4 flights for a total of 3.31 hours.

c. Aircraft #123 (J-75 engines) made 49 flights for a total of 78.47 hours.

d. Aircraft #124 (trainer with J-75 engines) made 35 flights for a total of 46.24 hours.

e. Aircraft #125 has not yet flown.

2. Aircrafts #121 and #125, both equipped with J-58 engines, are being made ready for resumption and commencement of test flights the week of 3 March and 8-11 March respectively.

3. Aircraft #126, now in the process of final assembly at Burbank, is scheduled for delivery [redacted] about 18 March 1963. This aircraft will be configured with the new pressurized nose section and ARC-50 communications equipment. 25X1A

25X1A 4. A brief summary of OXCART status reported at a special suppliers' meeting held [redacted] 1 March follows:

a. Mr. C.L. Johnson, Lockheed, stated that no major problems have been encountered, other than foreign object damage to some engines, within the flight envelope thus far tested, i.e., up to 61,000 feet altitude and top speed of Mach 2.29. In addition to foreign 25X1A

Handle via [redacted] Control System

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object damage to engines, other minor problem areas encountered in the aircraft flight test program and undergoing analysis have been of the following nature:

(1) Brake chatter during slow landing speeds.

(2) Drag chute deployment malfunctions.

(3) Reflections from canopies and helmet of the full-pressure-suit.

(4) Inlet control and fuel control automatic schedule mismatches.

(5) Automatic direction finder equipment does not function efficiently due to antennae shortcomings.

(6) Engine starter cart problems.

COMMENT:

(1) Mr. Johnson claimed to be doing everything possible on the Burbank assembly line to cope with foreign objects inadvertently lodged in the nacelle structure during assembly. Headquarters people at the meeting made little if no headway with Mr. Johnson when it was pointed out that measures taken thus far at the Burbank assembly area have proven inadequate. Mr. Johnson is counting heavily on the circumferential screen installation in the nacelle to reduce damage from undetected foreign objects that may be lodged in the nacelle structure. Headquarters concern centers around the problem that may result if circumferential screens must be removed at a later date to improve system performance. It may be necessary to invite the Director's attention to this situation, which in simple terms, is a quality control problem at Burbank. It is granted that this problem is a formidable one and for this reason may even require heroic cleanliness and discipline measures to alleviate this problem from a long-range point of view. The cost of rebuilding a damaged J-58 engine, according to Pratt and Whitney, is about $250,000.

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(2) The engine starter cart situation (a responsibility of Lockheed) has reached an impasse on the part of Lockheed and Pratt and Whitney concerning how to proceed with the starter cart development program in view of changing engine starting requirements from those originally agreed upon. Lockheed is being directed to get together a coordinated position with Pratt and Whitney for submission to headquarters for consideration. This is essentially a "Mountain and Mohammed" problem with Mr. C.L. Johnson being rather unilateral in his approach to this interface problem with Pratt and Whitney.

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b. Messrs. [redacted] reported progress in the engine development and engine hardware areas to incorporate Phase III thrust recoupment fixes in engines, beginning with #219, a March delivery engine. Durability development engine testing has verified Phase III fixes, but additional minor durability improvements are required in the turbine transition duct and burner can areas. Due to the small number of flight hours on J-58 engines, engine flight test problems have been few to date and largely in the fuel control adjustment and engine starting requirement areas. Main fuel control deliveries are still pacing the engine delivery program. To date, sixteen J-58 engines have been delivered, with six additional engines scheduled for delivery in March.

25X1A c. Messrs. [redacted] reported that the inertial navigation system has performed reasonably well in flight test. The majority of malfunctions encountered in flight have been the result of aircraft J-75 engine inverter/generator problems, system noise, and azimuth gyro deficiencies. It is hoped that reliable Kearfott azimuth gyros, rewiring boards, and a battery or some similar fix to cope with excessive power transients will alleviate these problems. Kearfott gyros are pacing the inertial navigation system retrofit program, but the schedule of deliveries is compatible with aircraft test requirements.

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d. [redacted] reported on the status of A.R. ground and flight test equipment readiness as follows:

(1) S-Band and 170mc systems have been calibrated and ready for U-2 and A-12 flight tests. The 70mc system is not yet ready for full power operation. The rebuilding of the transmitter for full power operation requires 4-8 weeks for completion.

(2) The C-Band model range soon will be ready. Attempts are underway to procure a full-scale C-Band system. A K-Band system, for 1/7 scale model tests, is at Westinghouse undergoing modification.

COMMENT:

Dr. Scoville strongly directed that early A.R. flight tests should concentrate on high-angle information required urgently for vulnerability study purposes. The discussion that ensued makes mandatory the briefing of [redacted] as soon as feasible by OSI concerning the ground-to-air Soviet missile and associated radar equipment threat in order to up-date their information concerning this problem.

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e. [redacted] of Perkin-Elmer and [redacted] of Eastman-Kodak gave brief reports on the status of their cameras in flight test. Both systems have been demonstrating mechanical equipment reliability, but much test work is required to optimize performance of the systems. The camera people are awaiting anxiously for flight tests at high altitudes and high temperatures thus far not as yet available in tests to date. It is hoped that high temperature testing can get underway later in March as the flight envelope is extended by aircrafts #121, #122 and #125 equipped with J-58 engines.

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f. The Agency instructor-pilot [redacted] commented favorably on the handling qualities of aircraft #124. He stated that refueling OXCART aircraft #124 was much easier than refueling a 101 aircraft. Complaints about the pilot environment centered around annoying reflections from canopies and helmets and getting adjusted to full-pressure suits.

COMMENTS:

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(1) Lockheed is repairing some cockpit areas

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a dull black color to reduce reflections.

25X1A (2) Firewel and Dave Clark Companies, in conjunction with [redacted] are investigating ways of reducing helmet reflections.

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John Parangosky:C/DD/OSA:hmj (4 March 1963)
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